

THE BUSINESS OF LIGHTING

By Vilma Barr, contributing writer





BOLD, HARD FACTS
 (Left) Barneys In Beverly Hills, by Cooley Monato; (Above, top) Tienda Loewe, Valencia, Spain, and Tag Heuer, Las Vegas; the latter are high-end retail outlets operated by the international conglomerate LVMH, who recently made the transition to all-LED for its stores. That said, as Cooley adds that when working for such high-end clients, designers must make sure LEDs are tested well before installation.

What drives the decision to adopt LED? Is it pure energy savings? Is it cost? Is it novelty? We asked a number of people what their or their client's thinking was in context of places where LED has been embraced. The answers are quite surprising.

In the world of retail, LVMH is a luxury conglomerate composed of iconic brands such as Louis Vuitton, Sephora, Bulgari and Hennessy. In fact, the company operates 11 million sq. ft. of selling and support space. Three years ago, it investigated the use of LED lighting as a means to significantly cut its operating budget. In fact they wanted to cut 70% of what went into lighting--far surpassing the remaining costs to run its factories, ship its products or other expenses.

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The results detailing the documented savings so impressed Bernard Arnault, LVMH's chairman and CEO, that he established a company-wide effort to reduce its appetite for energy. Headed by Sylvie Bénard, the LED lighting options were carefully scrutinized and then implemented. A post-installation evaluation was thumbs-up. "LED lights, it turns out, do a better job of highlighting product features and are more pleasing to shoppers than incandescents or fluorescents," Bénard says. LVMH has subsequently established agreements with 20 lighting suppliers and has followed up by publishing a catalog and establishing a website for internal use by all of its brands.

Unfortunately, the decision to adopt LED is not so cut and dried, and it's not always about saving energy. However, in adopting LED, be it for new construction or retrofit, one commonality is universal: it's best to have a plan. Emily Monato, a principal with Cooley Monato Studio, can't emphasize this enough, and notes it may be the most important business decision a client can make. The New York based firm does a lot of work in the hospitality and retail world. The former has significantly jumped on the LED bandwagon, but not at little expense—and we're not talking about the cost of the technology itself, but lessons learned from flying blind. For many of her firm's clients, the big issue is the debate as to whether to retrofit LEDs into existing fixtures, or completely renovate. From a pure cost perspective, the answer sounds obvious, but Monato says they've worked with people who learned the hard way that 1 for 1 replacement is not a no brainer. "There's a lot of compatibility issues. And we're being called in a lot to fix these jobs where they jumped too soon," she says.

Diligent in-office and on-site testing is essential to warding off potentially negative installation results, adds Monato's partner Renee Cooley. "We have to know it's going to work," says Cooley. "When we decided on a new office location, we made sure there was sufficient space to set up our own light lab to test product performance," she explains.

Cultural Considerations

In the case of Clint Paugh, who manages lighting in Kansas City's Nelson-Adkins Museum of Art, he had simply had enough. As the main lighting consultant for the museum, the principal of Helios

TUNED IN

One feature that has Paugh's museum clients excited about LED is its tunability, particularly because of the frequency with which exhibits change. It also allows for more daylight-like conditions for Impressionist works.

CAUTION KEY

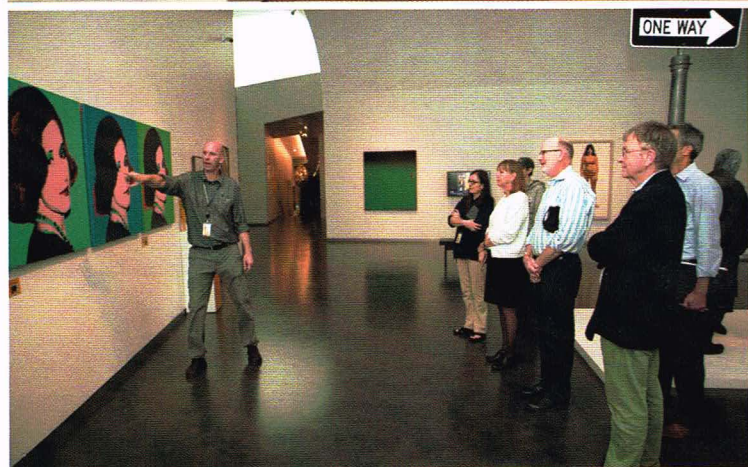
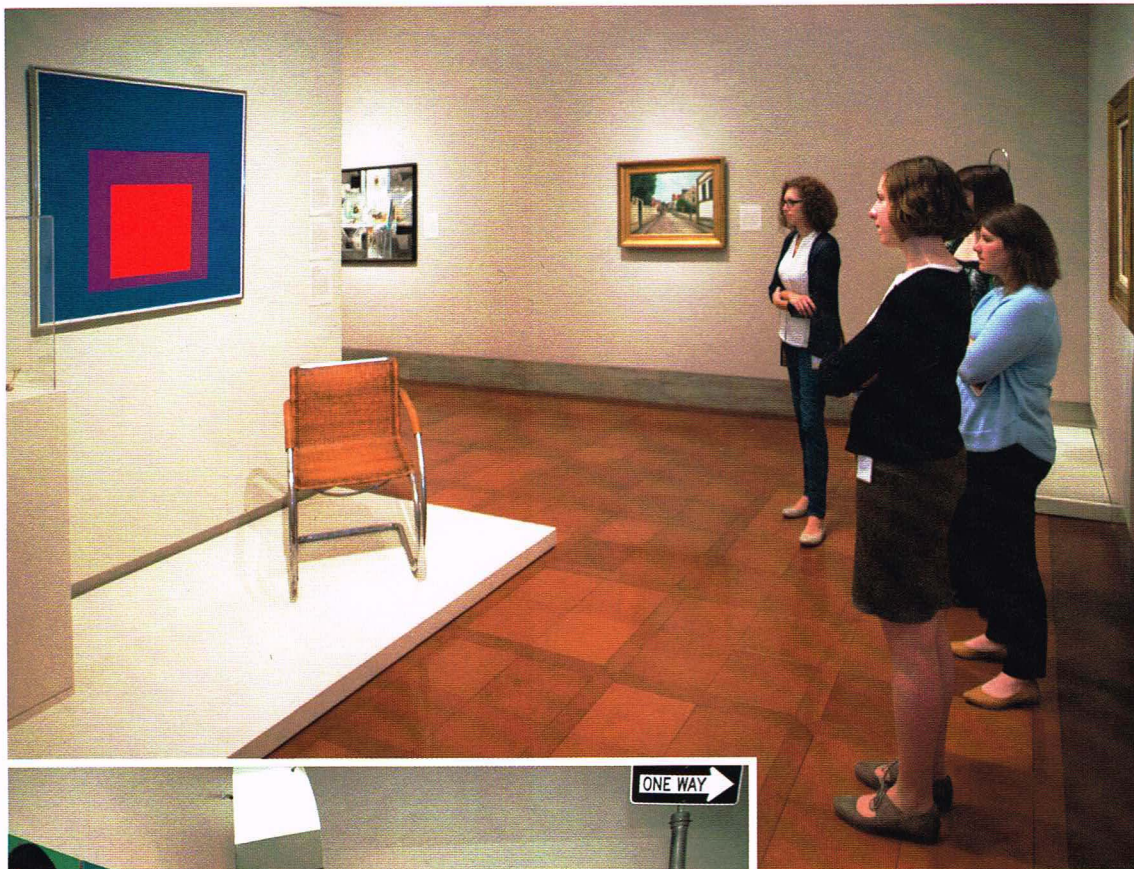
Museums tend to be conservative in their technology adoption, says Paugh. As a result, LED replacement sources were the more appropriate choice in this instance.

Design had been getting too many pitches to try everybody's LED replacement lamps. He decided it was time to roll up his sleeves and figure out which products made the most sense. His process began by first defining the performance criteria he wanted, including CRI, CCT and beam angle, in this case for spot and flood lamps. He came up with a dozen points, then sent out a notice to all the reps that had been calling on him, indicating if their product comes close, send it over. He got back 16 samples, of which he narrowed to four, then



two. Next came testing. "In some instances we did them side by side, in some cases we set them up to toggle back and forth," said Paugh. After assembling a pros and cons checklist, the team settled on a lamp from Sylvania. The curators, ultimately, were a critical part of this process. For example, in one instance, the team was looking at a painting by Josef Albers—one of his Interaction of Color series—which included a purple square inside a red square. The source they chose to illuminate the painting made the red pop, and the designer thought

"YOU CAN GET REALLY GOOD LED PAR 38S FOR \$40 VS. \$120 A COUPLE OF YEARS AGO—SO THERE'S NO STICKER SHOCK."



feel there was an LED MR16 up to snuff. Today, that's not the case, as he put in an order for 1500 PAR 38s and about 800 MR16s. "That's about 70% of the gallery."

That said, the thing about the transition to LED that has he and his clients are the most excited about is color tuning. In fact, right now, in their Impressionist collection, they've been experimenting with it to achieve a kind of daylight filter in concert with the tungsten lamps in there now. At first they tried a mix of 3000K and 2700K lamps, but now they're looking into the tunable products. "The ability to change color [Kelvin temperature wise] is a big deal for us." It's so, he says, particularly because they're so frequently changing exhibits. The ability to also add RGB color is appealing in concert with various social events that occur in the museum.

One product Paugh has been especially impressed with is Ketra's PAR 38 lamp. It's not so much the light source as it is the company's innovative software which makes this whole tuning effort fairly seamless. Right now they're retrofitting Edison Price track heads with the Ketra lamps. They're also experimenting outright replacing a lot of the T8 fixtures in the museum with the company's linear fixtures as the main ambient source in the museum.

The debate over lamp retrofit vs. whole fixture replacement is not an easy one, says Paugh, and it depends on the situation. Right now, retrofit lamps appeal to him as they address his fear that something cooler and more innovative is around the corner.

Frankly, he's also not sure that every fixture manufacturer has made up its mind on exactly where they want to go when it comes to their LED offerings.

OWNER INVOLVEMENT

The museum's curators proved critical in the process of selecting the right LED sources, particularly in conveying information essential as to how the colors of the art works should appear.

this was cool. Then the curator stepped up and said that was not the intent of the artist at all, as both colors should be the same intensity. So in this case, Paugh said that client involvement made a huge difference.

Now getting the curators in the game was a different story. Some were excited to be part of the process from the get go; others not so much. They did a number of these kinds of get togethers, and each time more people would come. Was there pressure from the museum at all to jump on the LED

bandwagon? "In museums there's not a lot of emphasis on being state of the art, as [art] conservationists tend to be leery. The whole imbroglio over the van Gogh museum about LEDs being harmful to artwork—which turned out to be inaccurate—didn't help. In fact, at least here at the Nelson-Atkins, if LED wasn't a good choice, we would have found another alternative," says Paugh.

Price of the technology, was not a factor. "You can get really good LED PAR 38s for \$40 vs. \$120 just a couple of years ago—so there's

no sticker shock anymore," says Paugh.

His clients are also well aware that the use of LED is part of an upgrade as a whole, and that fact, in their eyes, makes the investment not so outlandish. Some of this willingness is also due to an obsolescence issue—the 45W halogen MR16s that have been the museum's go-to source, have been phased out. In fact, anticipating this at the end of 2013, Paugh ordered 45,000 lamps so the museum could go two years without needing to look at LED. In 2013 Paugh didn't



Pushing the Frontier

At the very western tip of Texas, in the Chihuahuan Desert where the Lone Star state converges with Mexico and New Mexico, the campus of University of Texas El Paso occupies over 500 acres nestled amid various mountains and arroyos. This topographical campus oddity—more specifically a need to illuminate and maintain the roads that connect the campus—was one of the major drivers for UTEP to make the LED plunge. That said, the university didn't just jump at the first LED fixture to come along. Instead, they commissioned Bruce Yarnell of Shawnee, Kan.-based Yarnell Assocs., to develop a lighting masterplan. "We always find value in having a comprehensive vision—and it's beyond just light-

ing," says Nestor Infanzon, FAIA, LEED AP, BD+C Director of Planning & Construction at UTEP. "It's also about landscaping, architecture, wayfinding and accessibility."

Maintenance was a big part of the plan. "We have seven miles of roads, and a variety of lights on each of them," says Infanzon. "One of our big goals was to simplify things—we wanted to standardize the campus' fixtures in part to simplify our inventory, but also because we wanted LED."

Another surprising driver was tuition. "We want to be extremely responsible to costs," says Infanzon. "So in thinking of ways to manage the cost of tuition, power consumption became a huge target."

Security was yet another factor. "There are lots of places people can

hide around the campus—better lighting can help prevent problems, as we want a walkable, safe campus," says Infanzon. "When you add all those factors together, a lighting masterplan provided a foundation for us to build a friendlier campus."

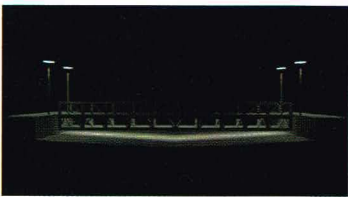
Adds Yarnell: "The use of LED was never in question. It's been in the plan from day one, with no hesitation from the university. It's a wonderful source—it renders people well at night to the security issue—so you can clearly see if someone's face is threatening."

Reaction to LED has been positive. "The area has been transformed," says Infanzon. "It's great to see people walking around so much, even as late as 10 o'clock, because they feel safe—that wasn't always the case."



HUMAN CONSIDERATIONS

The campus green feature's Structural's striking "Reed" poles, of which LEDs are mounted. Lighting designer Bruce Yarnell notes humanization of the campus was a major goal.



DUE DILIGENCE

Modeling proved a major part in identifying the right sources for different parts of the campus, be they roadways or the main campus green.

Infanzon even received comments from the mayor as to how impressed he was to see how the core of the campus has changed. “We’re also seeing students attitudes change, and they’re hanging out more on campus.”

In fact, the school has just started a movie night on one of the lawn areas. “One of our main goals was to make it a more human space,” says Yarnell.

He used 3000K sources in areas where students walk, and 4000K on the roadways, in part, as research has shown it helps drivers with better reaction times.

“That’s a unique thing about working with Bruce is that we always had an idea of alternative choices, and he provides examples of what different fixtures would

look like. And we could immediately recognize the differences,” says Infanzon.

One subtle difference, he notes, is that the light is actually a softer, yet it delivers better perception. “It’s something we appreciate, given that El Paso, during the day, is very bright as the sun is very intense; so at night, it’s almost a relief to have that softer tone.”

As far as LED’s cost, Infanzon notes it’s part of doing business. “The first thing that matters to us is life of the product. Our life cycle is 50 years, so we weren’t looking for a 3-year payback, the question we wanted answered is whether these fixtures would last 25 years?”

That said, UTEP has a good working relationship with the local utility who offered financial as-

sistance. “The incentives do help—and we were delighted we could take advantage of those—but our philosophy is to move ahead where we can. And much more efficient campus lighting is a big part of our big-picture plan,” says Infanzon.

“The question isn’t LED anymore, it’s about knowing the right products,” says Yarnell. For example, he notes his team didn’t pick the most cutting edge technologies. “We wanted the lights to blend well down the road, and be so that the university could easily scale up or replace any fixture.”

“In the next 10-15 years we’ll have all LED,” says Infanzon. ●

Next issue, we continue the conversation, with a focus on the relationship between designer and owner.